REMARKS/ARGUMENTS

The Office Action dated May 27, 2010 has been carefully reviewed. Reconsideration of the objections and rejections contained therein is respectfully requested in view of the following remarks. Claims 1-31 and 37-42 are pending in the current application. Claims 1, 7, 14, 19, 25, 32 and 37-41 are independent claims. Claims 32-36 have been withdrawn.

Claim Rejections under 35 U.S.C. §101

Claims 39-41 are rejected under 35 U.S.C. §101 for allegedly being directed to non-statutory subject matter. By the present Amendment, each of independent claims 39-41 have been amended so as to be directed to a "non-transitory" computer-readable medium, which recent USPTO guidelines indicate is statutory subject matter. Accordingly, withdrawal of this rejection is respectfully requested.

35 U.S.C. §103(a) Lindskog in view of Kim

Claims 1-6, 14-24, 37, 39 and 41-42 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 2006/0120322 ("Lindskog") in view of U.S. Patent No. 6,870,824 ("Kim"). Applicants respectfully traverse this art grounds of rejection.

1.   Discussion of the Examiner's Interpretation of Lindskog.

Below, reference is made with respect to "Walsh" codes of different rates, even though the term "Walsh" does not appear in the independent claims. The reason for this is that the Examiner reads the claimed codes and sub-codes upon Walsh codes in the applied art. Accordingly, references to Walsh codes are intended to describe the current Examiner's interpretation of the applied art, and not necessarily to a claim construction necessitated by the independent claims.

Referring to FIG. 2 of Lindskog, Lindskog illustrates a Walsh code tree where a full-rate Walsh code C11(full-rate or 1/1 = 1) has sub-codes C21 and C22 (half-rate or ½), which in turn have sub-codes C41 – C44 (quarter-rate or ¼), and so on (e.g., see [0025]-[0027] and FIG. 2 of Lindskog). Branches of the Walsh code tree on the same level correspond to orthogonal Walsh codes or sub-codes in Lindskog. Lindskog attempts to be efficient in terms of which codes or sub-codes are allocated to subscriber stations, but Lindskog does not appear to disclose or suggest allocating different codes and/or sub-codes to the same subscriber station.

Accordingly, Applicants agree with the Examiner in that "Lindskog does not teach assigning a second sub-code derived from the first code to support a supplemental channel to the second subscriber station", and the Examiner further generalizes this deficiency by admitting that Lindskog does not teach assigning a second channel to a single mobile station (e.g., see Page 4 of the 5/27/2010 Office Action). The Examiner now cites to Kim for allegedly curing this particular deficiency of Lindskog.

2.   Kim does not cure the admitted deficiencies of Lindskog.

Regarding data rates on forward-link and reverse-link channels, Kim states the following:

... The forward fundamental channel has a data rate of 9.6 Kbps or 14.4 Kbps, however, a variable rate can also be used according to the channel conditions, wherein the variable rate includes a 1/2 rate of 4.8 Kbps or 7.2 Kbps, a 1/4 rate of 2.4 Kbps or 3.6 Kbps, and a 1/8 rate of 1.2 Kbps or 1.8 Kbps.

(e.g., see Col. 6, lines 17-22 of Kim)

... The reverse fundamental channel has a data rate of 9.6 Kbps or 14.4 Kbps, however, a variable data rate can be used according to the channel conditions, wherein the variable data rate includes a 1/2 rate of 4.8 Kbps or 7.2 Kbps, a 1/4 rate of 2.4 Kbps or 3.6 Kbps, and a 1/8 rate of 1.2 Kbps or 1.8 Kbps.

(e.g., see Col. 8, lines 16-21 of Kim)

In the operating environment of Kim, 9.6 Kpbs or 14.4 Kpbs corresponds to a full-rate that uses a full-rate Walsh code, whereas lower data rates (i.e., 4.8 Kpbs or 7.2 Kpbs, etc.) are fractional (i.e., ½ rate, etc.) and are likely to use either a sub-code or a long code (which is not actually derived from a Walsh code and is described elsewhere in Kim).

The Examiner reads the claimed "supplemental channel" on a supplemental channel in Kim that is generated by the supplemental channel generator 517 and is described between Col. 6, lines 31-53 of Kim (e.g., see Pages 4-5 of the 5/27/2010 Office Action). However, in the cited section, Kim states that "[t]he supplemental channel generator 517 has a scheduled data rate of *over 9.6 Kbps*" (e.g., Col. 6, lines 35-37 of Kim, Emphasis added). As established by Kim, channels with data rates above 9.6 Kpbs transmit at a full-rate, or with a full Walsh code (i.e., not a sub-code).

Turning back to Lindskog, sub-codes on the Walsh Code tree of FIG. 2 are not capable of transmitting at a full-rate. Rather, sub-codes C21 and C22 have a highest-rate of 1/2, C41 – C44 have a highest-rate of 1/4 and C81-C88 have a highest-rate of 1/8. The only Walsh code capable

of a full-rate in the Walsh code tree of Lindskog at FIG. 2 is C11. However, C11 is the full-rate Walsh code, and the allocation of C11 preempts the allocation of any sub-codes because the sub-codes overlap (i.e., are not orthogonal) to the ancestor-code or parent-code C11.

Because C11 is the only Walsh code in FIG. 2 of Walsh capable of transmitting at a full-rate, C11 would have to be assigned to the supplemental channel in Kim to permit the supplemental channel to transmit at the full-rate (i.e., "over 9.6 Kpbs") in the alleged combination of Lindskog and Kim. As will be appreciated, this means that if an "unused orthogonal code" were to be allocated to the supplemental channel in Kim, a sub-code of another Walsh code that was already allocated (in part) to another device would not be sufficient to support the supplemental channel. Rather, Kim would need to seek an entirely unused Walsh code that does not yet have any of its sub-codes assigned to other devices for supporting the supplemental channel.

Accordingly, Applicants submit that Kim cannot cure Lindskog's admitted deficiency to disclose "assigning a second sub-code derived from the first code to support a supplemental channel to the second subscriber station" as recited in independent claim 1 and similarly recited in independent claims 14, 19 and 41.

As such, claims 2-6, 15-18, 20-24 and 42, dependent upon independent claims 1, 14, 19 and 41, respectively, are likewise allowable over Lindskog in view of Kim at least for the reasons given above with respect to the independent claims.

Applicant respectfully requests that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Lindskog in view of Scherzer

Claims 7, 25, 38 and 40 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 2006/0120322 ("Lindskog") in view of U.S. Patent No. 6,901,062 ("Scherzer"). Applicants respectfully traverse this art grounds of rejection.

The Examiner cites to Scherzer to cure an admitted deficiency of Linskog to disclose building groups of subscriber stations for resource-allocation. The cited section of Scherzer at Col. 9, lines 33-35 describes separating subscriber stations into M groups and only transmitting to one of the M groups at a given time to reduce downlink interference. However, Scherzer, like Lindskog, also fails to disclose or suggest "wherein the first and second sub-codes are restricted to lower data-rate transmissions as compared to their respective first code" as recited in independent claim 7 and similarly recited in independent claims 25, 38 and 40.

Scherzer also provides no rationale for how a full-rate Walsh code could be assigned to Kim's supplemental channel while a sub-code of the full-rate Walsh code would still be available for assignment to another subscriber station as in the alleged combination of Lindskog and Kim, which means the combination of Lindskog, Scherzer and Kim also cannot disclose or suggest "assigning each of the subscriber stations in the first group either its allocated first code or a first sub-code derived from its allocated first code" and then "assigning a second sub-code derived from one of the first codes to support a communications channel to one of the subscriber stations in the second group" as recited in independent claim 7 and similarly recited in independent claims 25, 38 and 40.

Applicants respectfully request that the Examiner withdraw this art grounds of rejection.

35 U.S.C. §103(a) Lindskog in view of Scherzer in further view of Kim

Claims 8-13 and 26-31 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 2006/0120322 ("Lindskog") in view of U.S. Patent No. 6,901,062 ("Scherzer") in further view of U.S. Patent No. 6,870,824 ("Kim"). Applicants respectfully traverse this art grounds of rejection.

For reasons discussed in the preceding sections, Applicants respectfully submit that the combination of Lindskog, Scherzer and Kim fails to disclose or suggest "wherein the first and second sub-codes are restricted to lower data-rate transmissions as compared to their respective first code" as recited in independent claim 7 and similarly recited in independent claims 14, 19 and 25.

As such, claims 2-7, 8-13, 15-18, 20-24 and 26-31, dependent upon independent claims 1, 7, 14, 19 and 25, respectively, are likewise allowable over Lindskog in view of Scherzer in further view of Kim at least for the reasons given above with respect to the independent claims.

Applicants respectfully request that the Examiner withdraw this art grounds of rejection. Reconsideration and issuance of the present application is respectfully requested.
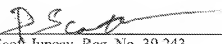
CONCLUSION

In light of the amendments and remarks contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

Dated: _8/20/10_

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